SKYWARN® Spotter News

www.weather.gov/seattle

SPRING 2016

NATIONAL WEATHER SERVICE - SEATTLE/TACOMA

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Spring Is Here

Longer days, shorter nights and the start of Daylight Time all mean spring has arrived. Spring also means our primary thunderstorm season is here! The longer warmer days together with cool air aloft still streaming inland from the northeast Pacific Ocean produces periods of unstable air and our seasonal thunderstorm season.

Compared with other areas east of the Rockies, we do not get many thunderstorms. For instance, many parts of Florida get over 200 thunderstorms per year while we average about 10. Yet, even our thunderstorms can and have produced large hail, damaging winds, and even tornados and waterspouts.

Our active convection season usually occurs during our transitional seasons into and out of winter - fall and spring. April is usually our peak month for convection. In our history, the bulk of our tornadoes have occurred in April and May, including the only three F3 tornadoes ever reported in the state.

Fortunately, most WA tornadoes are weak F0 or F1 Enhanced Fujita (EF) Scale events, and touch down and back up in up in less than a few minutes. These kinds of tornadoes are usually not apparent on NWS Doppler weather radar and when unstable weather conditions are present, often more than one can and do occur in a day. Your Skywarn spotter reports of wall clouds, funnel clouds, tornadoes and waterspouts are very important in the effort to help protect lives and property.

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AMS Annual Meeting in Seattle Next January

The annual meeting of the American Meteorological Society is planned to be held in Seattle in January 2017. The dates will be January 22-29 at the Washington State Convention and Trade Center. Over 3000 meteorologists and weather enthusiasts from around the globe will attend. A public event – WeatherFest – will be held on Sunday January 22nd. Don't miss it! For more information about this meeting, visit the AMS web site at https://www2.ametsoc.org/ams.

20th Anniversary of the Movie—*Twister*

In May of 1996, the movie *Twister* made its debut on the silver screen. The film dramatically raised our nation's knowledge of tornadoes, thanks in part to all the subsequent special TV programming on tornadoes and storm chasing after the film's debut. Interest in the Skywarn weather spotter program skyrocketed!

A special 20th anniversary showing of *Twister* has been arranged and you are invited! Mark your calendar! The film will be shown at Central Cinema, 22nd and Union in Seattle, on May 19th – 8 PM. Seating is limited – first come, first served. Visit http://central-cinema.com for more information about the theater.

This showing will use hecklevision – a social media tool using your smart phone that will add to the fun of the showing. Discussion about the movie will be held prior to and following the showing as well.

NWS Seattle and Seattle Emergency Management have partnered with Central Cinema for this special 20th anniversary showing of *Twister*. We hope you can join the fun!

Pac NW Weather Scramble Date Set

The date for the golf tournament has been set for Sat Aug 13 again at Ft Lewis Golf Course just off Interstate-5 at exit 116 south of Tacoma. The tournament is a fun networking opportunity for those in the weather community, including weather spotters. Entries for the tournament will be available soon. If interested in an entry, contact Ted Buehner at ted.buehner@noaa.gov.

Pacific NW Weather Workshop

The annual Pacific NW Weather Workshop was held on March 4th and 5th at the NOAA Western Regional Center in Seattle. Over 130 people attended this year including several Skywarn weather spotters. The workshop offered a diverse set of presentations with a focus on the just completed Olympex project in the Olympic Peninsula area. For more information about this precipitation research and ground truth project, visit http://olympex.atmos.washington.edu.

The rest of the presentations addressed numerical modelling updates, review and studies of this past year's significant weather events, and climate study results. The evening banquet was highlighted by the humorous and astounding Olympex project adventures. Presentations released by speakers are available at www.wrh.noaa.gov/sew/WorkShop_16/2016_PNWWW.htm

CoCoRaHS Update

Did you know the White House has a CoCoRaHS gauge? CoCoRaHS station DC-DC-19 is official reporting precipitation from the White House kitchen garden, visible by the public on the South Lawn. The National Park Service staff manages the grounds and are eager to help the field of "Citizen Science." CoCoaRHs has now been extended to the Bahamsa too.

Your data is valuable to us here at NWS along with the TV weather anchors and many others. We use CoCoRaHS reports to study precipitation variability across our geographically diverse area. Your lowland snowfall reports are crucial during winter storms. Your reports also help verify the radar algorithms and precipitation estimates, including the coastal radar. With all the Doppler radars in the state equipped with dual-polarization technology, more rainfall reporters are needed to provide 'ground truth' to this new technology.

If you haven't done so already, please check out www.cocorahs.org for more information about the CoCoRaHS program.

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It is time again to review your Spotter Field Guide and brush up on your convective weather spotter skills. If you need another Field Guide or spotter criteria sheet, contact Ted or Jay on the spotter phone line and we'll mail you a copy.

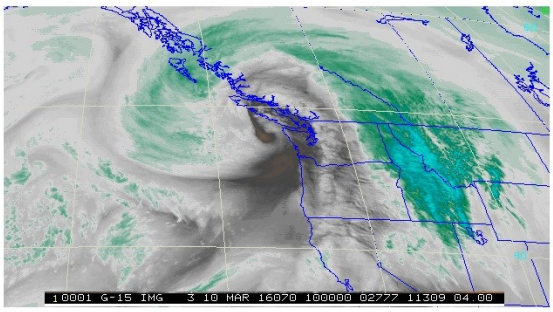
Thunderstorms can produce strong damaging winds, flash or urban flooding from heavy rainfall, large hail, lightning and even tornadoes. Lightning is dangerous - remember your lightning safety rules. The last Washington lightning related fatality was in 1996. Let's keep it that way! Last year, we had two lightning related injuries. If you can hear thunder, you're close enough to be struck by lightning! When Thunder Roars, Go Indoors!

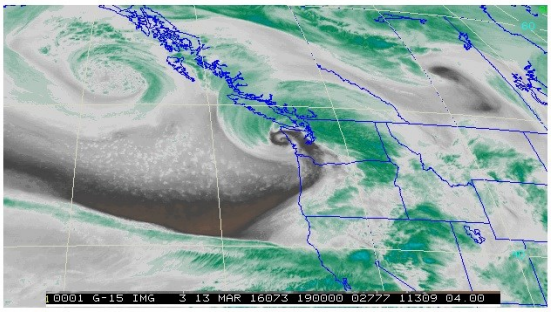
Per your spotter criteria sheet, report pea-sized or larger hail with any damage if noted. Also report heavy rainfall of at least one-half inch in an hour or less. If you see flooding of any kind and/or winds of at least 35 MPH, contact us.

Report tornados, waterspouts, funnel clouds, and rotating wall clouds as soon as you can, along with where you are and the event's location and direction of movement. Remember the distinction between a funnel cloud and the more common western Washington "scud" cloud? As emphasized in our training class, look for rotation, ROTATION, ROTATION.

Your spotter reports are an important element in the joint effort to help protect lives and property. Keep an eye to the sky when you learn of a threat of thunderstorms via NOAA Weather Radio, our web site, our social media, or from local media. To help raise public awareness, NWS offices throughout the Pacific NW plan to conduct a Severe Weather Awareness Week during the first full week of May. Refer to www.weather.gov/seattle in late April for more information about this awareness week.

Water Vapor Imagery of two recent storms, March 10th (top) and March 13th (bottom)





El Niño to Weaken—What's next?

The latest eastern Pacific tropical water sea surface temperature forecasts indicate the current warm El Niño is going to weaken through this spring.

In the key Niño 3.4 geographic area of the tropical eastern Pacific, sea surface temperatures have been gradually cooling since December. The forecast trend continues to weaken El Niño into this summer. In fact, there is now a 50% chance that La Niña will return for the winter of 2016-17.

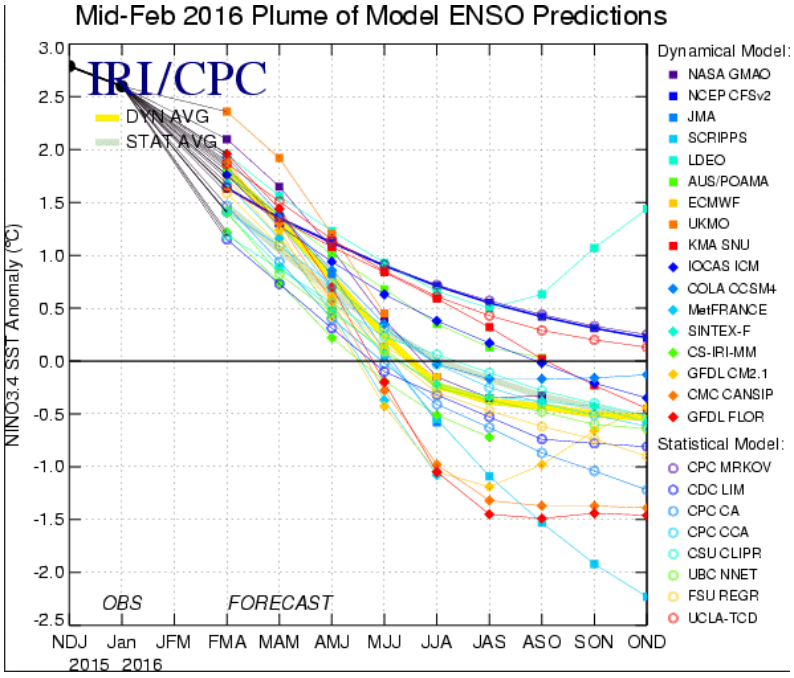
Looking back at this past winter, this El Niño turned out to be one of the three warmest since 1950. The other two were the winters of 1982-83 and 1997-98.

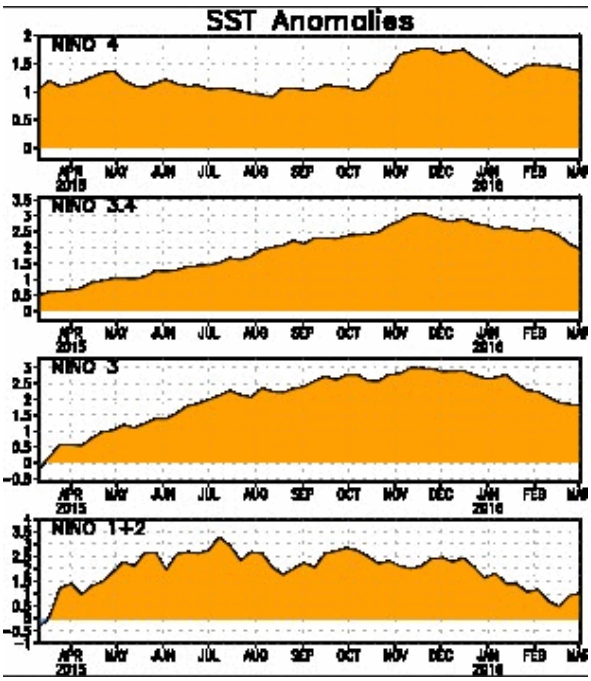
El Niños typically result in warmer than average temperatures for the Pacific Northwest and this winter was no exception. For precipitation, there is less of a common trend. Many winters tend to be dry, but not all. This winter clearly had above average precipitation and in some ways mirrored the warm El Niño winter of 1982-83. As of mid-March, the mountain snowpack was in much better shape than last year. The Cascades and Olympics average was about 110 percent of average

With El Niño weakening this spring, what does this trend mean for our spring and summer? The latest NWS Climate Prediction Center outlooks offer the following for western Washington:

Temperature – Increased odds on warmer than average through the summer.
Precipitation – Near or tipped odds on drier than average through the summer.

And as noted earlier, the latest trend for the upcoming winter is for a potential La Niña. La Niña's typically bring cooler and wetter weather during the winter season. More on this possibility later this year.





ENSO predictions and Sea Surface Temperature anomalies in the equatorial Pacific from the Climate Prediction Center www.cpc.ncep.noaa.gov

Four Presidential Declared Disaster Areas in 2015

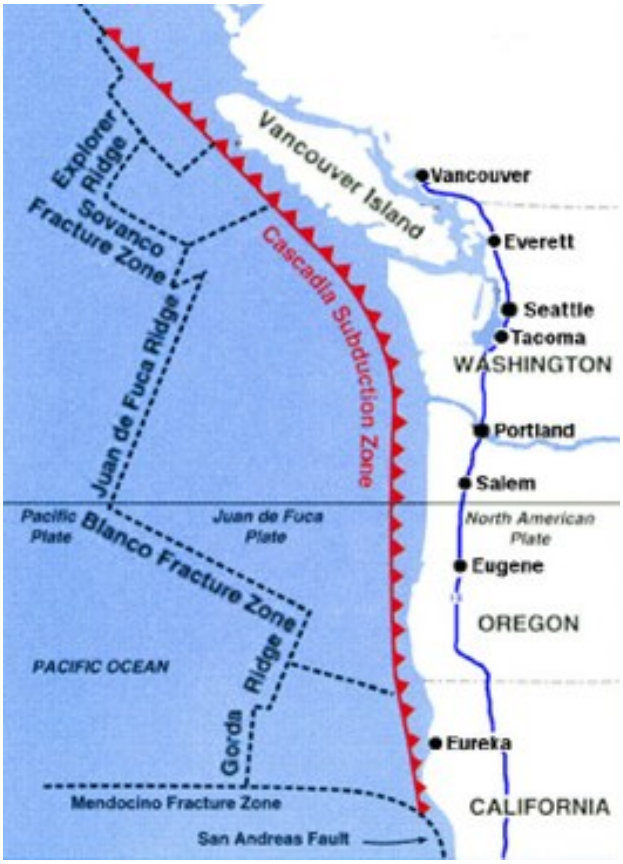
President Obama signed four Disaster Declarations for Washington state last year. The four were all weather-related. The first was for the record breaking wildfires in central Washington last summer. The others involved the August 29th wind storm, the mid November rain, floods and wind storm, and the final was for the first half of December when we had rain and more flooding, landslides, wind and coastal flooding.

Skywarn weather spotters provided valuable reports for all these weather elements that helped inform others in western Washington and reduce the loss of life and property. Thank you and keep those reports of hazardous weather conditions coming!

Cascadia Rising Exercise

A major earthquake and tsunami exercise will be held June 7-10 – named Cascadia Rising. The states of Washington, Oregon and even Idaho will be involved. Exercise players will include federal, state, county, local and tribal emergency management officials, businesses including power, gas, water and phone utilities, military officials, and others.

The exercise scenario mirrors the last Cascadia Subduction Zone earthquake and tsunami that occurred on the evening of January 26, 1700. The Cascadia Subduction Zone is located not far off the Pacific Northwest coast. The world's largest earthquakes occur along subduction zones and have involved recent major earthquakes off Japan and Chile.



Earthquake experts indicate that the Cascadia Subduction Zone 'rips' every 300 to 500 years. We are now within that time period window. The 1700 event was estimated to be a 9.0 magnitude quake and produce a Pacific Ocean wide tsunami. Evidence along the coast indicates tsunami waves were as high as 30 feet.

Simulations of a similar major earthquake and tsunami are being used for this exercise. Estimates find a loss of over 10,000 lives in Oregon and Washington with several tens of thousands injured. Power and utility outages will be common as well as roadway infrastructure failures.

The exercise will permit authorities at all levels to practice methods of emergency communications and response to such a catastrophic event. NWS offices throughout the Pacific NW will participate, providing all-hazards weather support to first responders and those that support these responders.

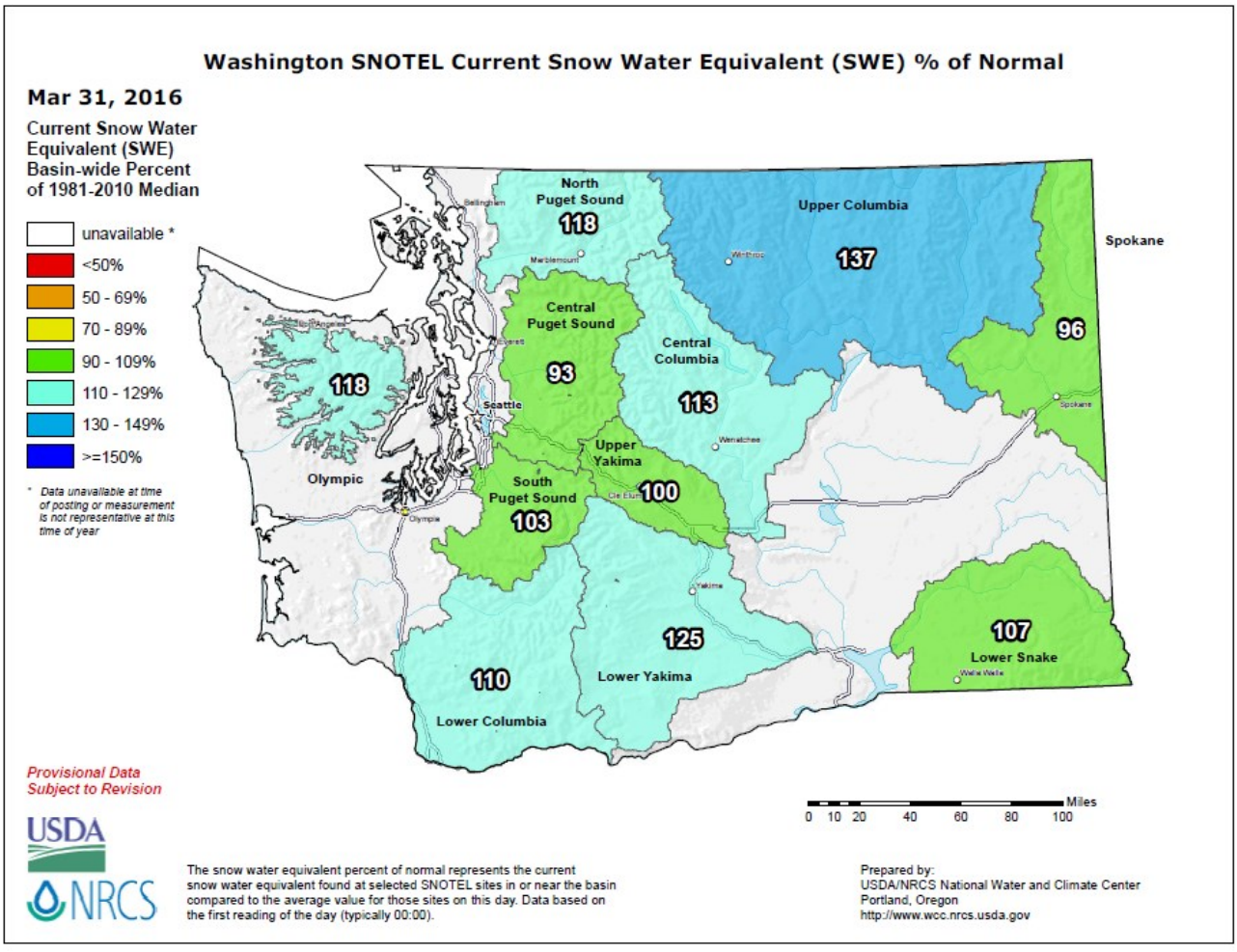
Amateur radio operators will provide key communications with those first responders and emergency officials, providing that communication link between those in the field and NWS forecasters. Lessons learned from this exercise will provide improve readiness and response plans for the day when the Cascadia or any earthquake occurs.

Spotter Trivia

With this winter season's mountain snowpack in far better condition than last year, this question addresses what have been our best mountain snowpack years? Can you name what our top five mountain snowpack years were going back to 1949-50?

Rank the top 5.

1949-50 1953-54 1955-56 1963-64 1973-74



Current SNOTEL data from Natural Resources Conservation Service: http://www.wcc.nrcs.usda.gov/gis/snow.html

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Climate Newsletter

The Office of the Washington State Climatologist produces a monthly weather summary that is available online or by email. To view OWSC's latest newsletter please visit:

www.climate.washington.edu/newsletter

Feedback!

Your feedback is wanted! Please let us know …

What would you like to see in future Skywarn newsletters?
Additional spotter training?
CoCoRaHS training?

Comments or questions?

Contact jeff.michalski@noaa.gov

Trivia Answers

1) 1955/56
2) 1973/74
3) 1949/50
4) 1953/64
5) 1953/54

Courtesy of the U.S. Forest Service's NW Weather and Avalanche Center.

https://www.nwac.us/